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Rev. 03

NEW SITE IDENTIFICATION

Part A – To Be Completed By Observer	Site Code: TSF-48
1. Person Initiating Report: Walker F. Howell	Phone: 526-6530
Contractor WAG Manager: Allen E. Jantz	Phone: 526-8517
2. Site Title: TSF-48, TAN-615 Sump Soils	

3. Describe the conditions that indicate a possible inactive or unreported waste site. Include location and description of suspicious condition, amount or extent of condition and date observed. A location map and/or diagram identifying the site against controlled survey points or global positioning system descriptors shall be included to help with the site visit. Include any known common names or location descriptors for the waste site.

Pursuant to language contained in EDF-2167 "VCO NEW-TAN-008 Characterization -TAN-615 Pits/Sumps," the INEEL indicated that sampling of soils under both the TAN-615 east and west pit/sumps would be conducted to verify that there were no past releases resulting from operations of the pits/sumps. The EDF stated that if contamination was found, an FFA/CO new site identification would be processed for soil contamination.

In accordance with the EDF, samples of soils beneath the concrete slab of the east and west pit/sumps were collected for laboratory analyses by D&D&D personnel on July 3, 2002 and August 13, 2002. These pit/sumps were formerly located at the south end of the TAN-615 structure prior to their removal in July 2002. The east pit/sump was scabbled of visible staining (to remove residual RCRA characteristically hazardous sediment), and the remaining concrete, along with the concrete from the west pit/sump, was verified to be LLW only. Following removal of the concrete pit/sumps, the area was backfilled with clean fill, and the concrete from both pit/sumps was later transported to RWMC for disposal.

Samples of soil beneath the east pit/sump were collected at a depth of approximately 18 inches below the concrete sump floor, or approximately 13.25 ft below surface grade, and 18 inches below the main level concrete slab, or approximately 9.5 ft below surface grade. A soil sample was collected beneath the west pit/sump at a depth of 18 inches below the bottom of the sump, or approximately 10.25 ft below surface grade. No visible stains or noticeable odors within the soil horizons that were sampled were observed by field sampling crews during sample collection activities. Analyses of the soil samples beneath the two pit/sumps were performed for total metals and radiological contaminants including gamma emitters, Sr-90, and gross alpha and beta:

Total Metals, East and West Pit/Sumps: The metals detected in the two soil samples collected beneath the east pit/sump include aluminum, antimony, arsenic, barium, beryullium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, nickel potassium, sodium, and vanadium. A comparison to the background concentrations as described in Background Dose Equivalent Rates and Surficial Soil Metal and Radionuclide Concentrations for the Idaho National Engineering Laboratory (Rood et al, INEL-94/0250, Rev. 1, August 1996) show that only arsenic (13.5 mg/kg, maximum concentration), calcium (97,300 mg/kg, maximum concentration), and sodium (584 mg/kg, maximum concentration) were reported above the 95%/95% upper tolerance limit (UTL) for grab samples (Rood et al., 1996).

The metals detected in the soil sample collected from beneath the west pit/sump include aluminium, antimony, arsenic, barium, beryullium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, nickel potassium, sodium, thallum and vanadium. A comparison to the background concentrations as described in Rood et al shows that only arsenic (14.8 mg/kg) and calcium (62, 600 mg/kg) were at concentrations above the 95%/95% UTL for grab samples.

Radiological Analytes, East and West Pit/Sumps: Analyses of the two soil samples beneath the east pit/sump reported that the only detectable radionuclides were K-40 (17.7 pCi/g, maximum activity, below INEEL background) and Ra-226 (1.07 pCi/g, maximum activity). Gross beta analysis showed an activity of 3.33 pCi/g. The activity of gross alpha (30.2 pCi/g, maximum activity) was not high enough to run speciated analyses for alpha-emitting isotopes. As a result, no comparison to alpha-emitting radionuclides that are listed in the INEEL background soils compilation can be made. Radionuclides Am-241, Cs-137, Sr-90, which have corresponding INEEL background values, were below detection limits.

Analyses of the soil sample beneath the west pit/sump reported that the only detectable radionuclides were Cs-137 (0.236 pCi/g) K-40 (20.3 pCi/g), U-235 (0.824 pCi/g), Ra-226 (1.29 pCi/g), and Sr-90 (0.468 pCi/g) Gross beta analysis showed an activity of 29.8 pCi/g. The activity of gross alpha (34.3 pCi/g) was not high enough to run speciated analyses for alpha emitting isotopes. As a result, no comparison to alpha-emitting radionuclides that are listed in the INEEL background soils compilation can be made. Am-241, which has a corresponding INEEL background values, was below detection limits.

Part B – To Be Completed By Contractor WAG Manager
4. Recommendation:

NEW SITE IDENTIFICATION

☒ This site meets the requirements for an inactive waste site, requires investigation, and should be included in the INEEL FFA/CO Action Plan. Proposed Operable Unit assignment is recommended to be included in the FFA/CO.
WAG: -1 Operable Unit: 1-11

☐ This site DOES NOT meet the requirements for an inactive waste site, DOES NOT require investigation and SHOULD NOT be included in the INEEL FFA/CO Action Plan.

5. Basis for the recommendation:

1. Source Description: The source of the contaminant release is believed to be the TAN-615 East & West sumps formally located in TAN-615 (Former Reactor Fuel Assembly Building).

2. Exposure Pathways: Potential exposure pathways associated with the TAN-615 sumps could include inhalation, ingestion and absorption through direct contact with either the materials that may have leaked from the piping or the soils surrounding it.

3. Potential Contaminants of Concern: Based upon the results of analytical testing performed on collected soil samples, the primary contaminant of concern at this potential site is arsenic and possibly various radionuclides. (See Section 3 for additional information).

4. Description of Interfaces with other Programs: Interfaces with other programs would include but not be limited to TAN Facility Operations, D&D&D Program, Voluntary Consent Order and Environmental Affairs. TAN is an active facility where the potential exists for coming into contact with these materials and/or soils during any construction and/or field activities in this immediate area.

The basis for recommendation must include: (1) source description; (2) exposure pathways; (3) potential contaminants of concern; and (4) descriptions of interfaces with other programs, as applicable (e.g., D&D, Facility Operations, etc.)

6. Contractor WAG Manager Certification: I have examined the proposed site and the information submitted in this document and believe the information to be true, accurate, and complete. My recommendation is indicated in Section 4 above.

Name: Allen E. Jantz Signature: Date: 01/23/03

NEW SITE IDENTIFICATION (NSI) EVALUATION

PART C – INEEL FFA/CO WAG MANAGERS CONCURRENCE

Site Title:	Site Code:
TSF-48, TAN-615 East and West Sump/Pit Soils	TSF-48

DOE WAG Manager Concurrence: ☒ Concur with recommendation. ☐ Do not concur with the recommendation.

Signature: PMShaw Date: 4/28/04

Explanation:

EPA WAG Manager Concurrence: ☒ Concur with recommendation. ☐ Do not concur with the recommendation.

Signature: R Matt Wilkey Date: 4/19/04

Explanation:

The site does require additional sampling & should be included in the FFA/CO for additional investigation.

State of Idaho WAG Manager Concurrence: ☒ Concur with recommendation. ☐ Do not concur with the recommendation.

Signature: Clyde A. Cody Date: 4/19/04

Explanation:

Agree the site requires additional investigation (sampling). Past sampling indicates minor contaminants resulting from past releases from the pits/sumps. Additional sampling should verify that the contamination is not widespread and no more severe than already noted (arsenic and some radionuclides)

NEW SITE IDENTIFICATION (NSI) EVALUATION

PART D – INEEL FFA/CO RESPONSIBLE PROGRAM MANAGERS (RPM'S) CONCURRENCE	
Site Title: TSF-48, TAN-615 East and West Sump/Pit Soils	**Site Code:** TSF-48

DOE-ID FFA/CO RPM Concurrence: ☒ Concur with recommendation. ☐ Do not concur with the recommendation.

Signature: Kathleen E Hain Date: 4/27/04

Explanation:

EPA FFA/CO RPM Concurrence: ☒ Concur with recommendation. ☐ Do not concur with the recommendation.

Signature: Nick Ostrom Date: 4/22/04

Explanation:

State of Idaho FFA/CO RPM Concurrence: ☒ Concur with recommendation. ☐ Do not concur with the recommendation.

Signature: Daryl L. Koch Date: 4/19/04

Explanation: